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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,891	12/11/2000	Kimio Hagi	50090-250	2930

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EXAMINER

RODRIGUEZ, ISABEL

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 07/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/732,891

Applicant(s)

HAGI, KIMIO

Examiner

Isabel Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 and 5-8 is/are allowed.
- 6) ☒ Claim(s) 3-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagao in view of Brown (US 5,948,986).

a) Nagao et al. discloses an electrostatic chuck system (Fig. 5) comprising: an electrostatic chuck having an electrode (15), a power supply (6, 10), and a voltage control section (8) for controlling and increasing or decreasing the applied voltage stepwise and the control of the applied voltage occurs contemporaneously with input of said signal output to said voltage control section. See col. 2 lines 33-36. Nagao et al. does not disclose a warpage sensor. Brown discloses the importance in an electrostatic chucking system to have a warpage sensor wherein a signal from sensor is input to a voltage control section to control the applied voltage. See col. 3 lines 19-48. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nagao et al. and include a warpage sensor to place an initially warped workpiece flat against the upper surface of the chuck and minimize the scratching of the workpiece.

b) Nagao et al. discloses an electrostatic chuck system (Fig. 5) comprising: an electrostatic chuck having an electrode (15), a power supply (6, 10), and a voltage control section

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(8) for controlling and increasing or decreasing the applied voltage stepwise and the control of the applied voltage occurs contemporaneously with input of said signal output to said voltage control section. See col. 2 lines 33-36. Nagao et al. does not disclose a distance sensor. Brown discloses the importance in an electrostatic chucking system to have a distance sensor wherein a signal from sensor is input to a voltage control section to control the applied voltage. See col. 3 lines 19-48. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nagao et al. and include a distance sensor to place an initially warped workpiece flat against the upper surface of the chuck and minimize the scratching of the workpiece.

Allowable Subject Matter

3. Claims 2 and 5-8 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter:

Claims 2 and 5-8 recite, inter alia, an electrostatic chucking system comprising an electrostatic chuck, a power supply, and a voltage control section wherein the applied voltage is controlled such that a rate at which the temperature change of the semiconductor substrate falls within a range of 10-150 °C/sec.

The references of record do not teach or suggest the aforementioned limitation, nor would it be obvious to modify those references to include such limitation.

Response to Arguments

5. Applicant's arguments filed 6/16/03 have been fully considered but they are moot in view of the new ground(s) of rejection.

Regarding the argument that the examiner is changing the operation principle of Nagao by using a warpage sensor. Brown discloses the importance of using a warpage sensor to minimize the scratching of the workpiece. By including the teaching of the warpage sensor of Brown in Nagao, the invention would have a warpage sensor and a warpage sensor including the benefits provided by both as previously discussed.

Regarding the argument that the prior art does not disclose that the voltage control section controls the voltage contemporaneously and step-wise the examiner established previously that the teachings of Brown included the use and benefits of a warpage sensor. By incorporating the teachings of Brown with Nagao et al. the voltage control section controls the voltage contemporaneously and step-wise as disclosed by Nagao et al.

Please refer to rejection above.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isabel Rodriguez whose telephone number is 703-305-4761. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 703-308-3119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7704 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

IR
July 26, 2003



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000